

Amendments to the Drawings:

The attached sheet of drawings includes new Fig. 3.

Attachment: One New Sheet of Drawings

REMARKS

The drawings were objected to under 37 CFR 1.83(a). Claims 18, 20 and 21 were objected to because of informalities. Claims 12 and 20 were rejected under 35 U.S.C. 102(b) as being anticipated by Fiden (US 4,733,238). Claims 19 and 23 were rejected under 35 U.S.C. 103(a) as being unpatentable over Fiden. Claims 13 to 15, 21 and 24 were rejected under 35 U.S.C. 103(a) as being unpatentable over Fiden in view of Hillman (WO 00/37960). Claims 16 and 17 were rejected under 35 U.S.C. 103(a) as being unpatentable over Fiden in view of Hillman and further in view of Levin et al. (US 2002/0003488). Claim 18 was rejected under 35 U.S.C. 103(a) as being unpatentable over Fiden further in view of Levin, Hodgson (US 4,403,208) and Song (US 5,208,756). Claim 22 was rejected under 35 U.S.C. 103(a) as being unpatentable over Fiden in view of Levin.

Claims 12 to 14, 18, 20 and 21 have been amended. The specification has been amended. The drawings have been amended to include new Fig. 3. No new matter is included. Support is found in the original claims and paragraph [0020] of the specification.

Reconsideration of the application based on the following is respectfully requested.

Certified Priority Documents

Applicants note that in the Office Action of September 4, 2007, Examiner has acknowledged receipt of "some" certified copies of the priority documents. Applicants note that there is only one priority document (DE 102 56 620.8, filed December 3, 2002) and respectfully requests clarification if the certified copy of this priority document was not received.

Objections to the Drawings

The drawings were objected to under 37 CFR 1.83(a).

The drawings have been amended to include new Fig. 3. No new matter is included. Support is found in the original claims and paragraph [0020] of the specification.

Withdrawal of the objections to the drawings is respectfully requested.

Objections to the Claims

Claims 18, 20 and 21 were objected to because of informalities.

Claims 18, 20 and 21 have been amended to correct the informalities.

Withdrawal of the objections to claims 18, 20 and 21 is respectfully requested.

Rejections under 35 U.S.C. §102(b)

Claims 12 and 20 were rejected under 35 U.S.C. 102(b) as being anticipated by Fiden (US 4,733,238).

Fiden discloses a method for radar tracking and data communication including the steps of (a) encoding a radar transmit signal with message data in a transmitter; (b) receiving transmitted returns of said encoded radar signal in a first receiver; (c) decoding said received return signal to eliminate message data; (d) receiving said encoded radar signal in a second receiver; and (e) decoding said received radar signal to extract said message data. (Abstract). A bi-phase modulator 24 modulates the phase of the fundamental radar transmit frequency to encode the message data thereon. (See Col. 2, Lines 55 to 57).

Claim 12, as amended, recites a radar system, comprising:

at least one radar device having a sensor and a transmitter configured to transmit data, the radar device having a predefined transmission and reception spectrum and the data being transmitted at a transmission frequency range within the predefined transmission and reception spectrum, the predefined transmission and reception spectrum being greater than the transmission frequency range, wherein the sensor and the transmitter are simultaneously operable for a communication.

It is respectfully submitted that Fiden does not disclose “the radar device having a predefined transmission and reception spectrum and the data being transmitted at a transmission frequency range within the predefined transmission and reception spectrum, the predefined transmission and reception spectrum being greater than the transmission frequency range,” as now recited in claim 12. The transmitter/receiver of Fiden modulates the phase of a fundamental radar transmit frequency to encode the radar transfer signal with message data, thus Fiden does not meet the limitations of claim 12 because both the radar transfer signal and the message data are transmitted at the fundamental radar transmit frequency. The present invention advantageously provides a data transmission frequency range that is different from the transmission/reception spectrum of the sensing signal. (See present specification at paragraphs [0009] to [0011]). The whole point of Fiden is to transmit data and a sensing signal over the same spectrum.

Withdrawal of the rejections under 35 U.S.C. §102(b) of claim 12, and claim 20 depending therefrom, is respectfully requested.

Rejections under 35 U.S.C. §103(a)

Claims 19 and 23 were rejected under 35 U.S.C. 103(a) as being unpatentable over Fiden.

In view of the above arguments with respect to claim 12, upon which claims 19 and 23 depend, withdrawal of the rejections under 35 U.S.C. 103(a) to claims 19 and 23 is respectfully requested.

Claims 13 to 15, 21 and 24 were rejected under 35 U.S.C. 103(a) as being unpatentable over Fiden in view of Hillman (WO 00/37960).

Hillman discloses a system that tracks and monitors a vehicle by utilizing cellular communication componentry and global positioning system componentry for simultaneous and continuous transmission of a voice signal and location data to a monitoring center. (Abstract).

In view of the above arguments with respect to claim 12, upon which claims 13 to 15 depend, withdrawal of the rejections under 35 U.S.C. 103(a) to claims 13 to 15 is respectfully requested.

With further respect to Claim 13, it is respectfully submitted that neither Fiden nor Hillman discloses “a radar system as recited in claim 12, wherein the at least one radar device is a pulse-type radar device having a notch filter configured to selectively attenuate frequency subranges containing spectral components of a sensing signal within the transmission frequency range,” as recited in claim 13 and it would not have been obvious to one of skill in the art to have modified Fiden in view of Hillman to meet these limitations. Hillman involves transmission of voice and location data, while Fiden transmits communication data and a radar signal. Nothing in Fiden or Hillman indicates that the notch filter of Fiden could effectively attenuate frequency subranges of the radar signal of Fiden or that if so, such attenuation would be effective for transmitting a radar signal and message data simultaneously. Furthermore, neither reference indicates that employing the notch filter of Hillman in the apparatus of Fiden would be less expensive and complex than the method and system of Fiden.

With further respect to claims 14, it is respectfully submitted that neither Fiden nor Hillman discloses “radar system as recited in claim 12, wherein the at least one radar device is a

pulse-type radar device and the transmission frequency range provided for the transmission of data being in a peripheral region of the predefined transmission/reception spectrum” as recited in claim 14 and it would not have been obvious to one of skill in the art to have modified Fiden in view of Hillman to meet these limitations. It is respectfully submitted that Hillman only indicates that the voice data at 2500 Hz is not in the region of important frequency energy for the particular voice signal 55 transmitted in Hillman and does not in any way indicate any desire to transmit data in a peripheral region of a transmission frequency range of a radar device.

Claim 21 recites a radar transmitter comprising:

an element configured to simultaneously emit a broadband signal for sensing and a communications data signal, wherein the broadband signal has a transmission/reception spectrum with a peripheral region, and the communications data signal is in the peripheral region of the broadband signal.

As stated above with respect to claim 15, it is respectfully submitted that Hillman does not in any way indicate any desire to transmit data in a peripheral region of a transmission frequency range of a radar device and only indicates that a particular portion of a voice signal is not an important frequency energy.

Withdrawal of the rejection under 35 U.S.C. 103(a) of claim 21 is respectfully requested.

Claim 24 recites method for sensing and transmitting data using a radar system having at least one radar device, the method comprising:

sensing and transmitting data simultaneously using the at least one radar device in a pulsed mode, wherein the transmitting of data is performed using a frequency range in a peripheral region of a transmission/reception spectrum of the sensing signal.

As stated above with respect to claim 15, it is respectfully submitted that Hillman does not in any way indicate any desire to transmit data using a frequency range in a peripheral region of a transmission frequency range of a radar device and only indicates that a particular portion of a voice signal is not an important frequency energy.

Claims 16 and 17 were rejected under 35 U.S.C. 103(a) as being unpatentable over Fiden in view of Hillman and further in view of Levin et al. (US 2002/0003488).

Levin discloses a network and system that “enables vehicles to communicate with each other in order to exchange information that improves their safety, e.g., extending sensors capabilities, alerting on maneuvering, alerting on junction crossing, etc. It could serve other communication functions, like relaying information to other vehicles, as well as direct voice communication to nearby vehicles.” (Paragraph [0024]).

Claim 16 recites the radar system as recited in claim 13, wherein the transmission frequency range includes a plurality of individual frequency bands, each for the transmission of data from a different data class.

Claim 17 recites the radar system as recited in claim 16, wherein the different data classes include at least one of emergency data, log data and communications data.

In view of the above arguments with respect to claims 12 and 13, upon which claims 16 and 17 depend, withdrawal of the rejections under 35 U.S.C. 103(a) to claims 16 and 17 is respectfully requested.

Furthermore, it is respectfully submitted that it would not have been obvious to one of skill in the art to have modified the device of Fiden in view of the system of Levin to meet the limitations of claims 16 and 17 because the radar of the system of Levin is not operating during a communication mode. (See Levin, paragraph [0055]).

Claim 18 was rejected under 35 U.S.C. 103(a) as being unpatentable over Fiden further in view of Levin, Hodgson (US 4,403,208) and Song (US 5,208,756).

Hodgson discloses a warning-signal producing apparatus and system for a first motor vehicle responsive to a vehicle-presence-indicating radio wave signal produced by and emitted from a second motor vehicle within a certain distance of the first motor vehicle for effectively causing the production of a corresponding warning signal within the interior of the first motor vehicle and, in one form, for correspondingly attenuating, muting, or interrupting sound emitted by any simultaneously operating entertainment apparatus within the first-mentioned-motor vehicle. (Abstract).

Song discloses a vehicle locating and navigating system operating in conjunction with a cellular telephone network is provided. A small, hidden device located in a vehicle is activated through DTMF signals transmitted from any telephone station. Upon activation, the device determines the power at which normally transmitted control channels are received from several

base stations of the network. Based upon these determinations, the device then calculates the distance between the vehicle and each of the base stations and, using triangulation or arculation, determines the location of the vehicle. (Abstract).

Claim 18 recites the radar system as recited in claim 12, wherein the transmitter provides amplitude modulation for the transmission of emergency data, and provides PSK types of modulation for the transmission of communications data and log data.

In view of the above arguments with respect to claims 12, upon which claim 18 depends, withdrawal of the rejections under 35 U.S.C. 103(a) to claim 18 is respectfully requested.

Furthermore, it is respectfully submitted because one of skill in the art would not have had any reason to have combined the cited references, it would not have been obvious to have combined the cited references.


Claim 22 was rejected under 35. U.S.C. 103(a) as being unpatentable over Fiden in view of Levin.

In view of the above arguments with respect to claims 12, upon which claim 22 depends, withdrawal of the rejections under 35 U.S.C. 103(a) to claim 22 is respectfully requested.

CONCLUSION

The present application is respectfully submitted as being in condition for allowance and applicants respectfully request such action.

Respectfully submitted,
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